Notes from the 03/28/06 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

Project Announcements
Main Injector Status - Dave C.
Measurements around MI with injected signals
Peter, Marv, Bob D., Bob W.
Hardware status:
Transition Board: bids, filters, delivery, checkout and testing.
Transition Board I/O status
Timing Board
Cables, crates, backplanes, Optilogic, other.
Software status:
Front-end software
Online software
Installation and Commissioning
Practice slides for All Experimenters Meeting - Rob K.
AOB

0. Project Announcements

- Rob Kutschke will give an All Experimenters Meeting talk about MI BPM upgrade on April 3.

0.' MI Status - Dave Capista

- Dave summarized the status of the Main Injector shutdown work, including MI8 work, quad installation, investigation of kicker cables in cable trays, etc.

- The work is proceeding more or less on schedule. The BPM project needs to be aware of the quad work, cabling and BPM pickup work, etc.

1. Measurements in MI40 with injected signals
Peter, Marv, Bob D., Bob W.

- Measurements were done by Marv Olson, Peter Prieto, Bill Barker, Bob Dysert, John Van Bogaert, John Seraphin. Bob Webber showed a writeup that is in preparation documenting the measurements and some analysis of those measurements.

- The measurements were done by injecting split signals into the RG8 cables (A and B) in the tunnel and measuring the signal in the service

buildings (patch cables connected to the connectors in the tops of the racks). Peak-to-peak and phase measurements were made manually and scope trace data was captured electronically.

- Bob W. fit the trace data and compared them to the manual data. In general there was good agreement. One data point may have had some digits reversed. All remaining analysis was done with the fits to the scope traces.

- In general the data looks as expected. The attenuation increases with length of cable. And it is much less at 2.5 MHz than at 53 MHz.

- However, there are large attenuations (up to about 2.5 dB) in the A-B measurements at 53 MHz. This corresponds to position differences of up to about 3 mm. There are also phase differences of up to about 30 degrees in A-B.

- Discussion: The cables are not well matched in both amplitude and phase. There is no strong desire to replace all the cables. It is felt that these measurements can be used to correct the A/B amplitude differences. In addition there will be a few new cables pulled during the shutdown - heliax at 606 and RG-8 at the new quad locations. We should use the measured gain differences to check the MI40 data.

2. Hardware status:
   Transition Board: bids, filters, delivery, checkout and testing.
   Transition Board I/O status
   Timing Board
   Cables, crates, backplanes, Optilogic, other.

- Update from Bob Forster on various orders:

Lace Transition Module Assembly (PO Total = $17,042.52)
- Qty=72 Req#184529 PO#568055 Lace (Bid Package)
- Assembly including Fabrication of Front Panels
  (unit price $201.23) plus 3 extra Front Panels
- Expected Delivery: First Three -
- Expected Delivery: Remainder -
  (the update promised yesterday from Lace has yet to arrive.)

Casco Cables (PO Total = $34,413.40)
- Qty=(Lots) Req#183724 PO#566784 Casco (Sole Source)
- all in hand awaiting testing.
- a few failures from the first batch to be returned
  along with whatever second batch failures are found.

Hybricon J3 VME backplanes (PO Total = $5,830)
- Qty=11 Req#186118 PO#568474 Hybricon (Sole Source)
- Expected Ship Date Weds, 19-Apr-06 (by phone from Hybricon)
- Expected Delivery Date Tues, 25-Apr-06 (Extrapolation)
- Unit price: $530 * 11 = $5,830 (+shipping?)
(comment: the backplanes in-stock when I wrote the Req
were sold and gone by the time this PO was
actually approved and placed.)

Elma Air Dam Modules (PO Total = $5,148)
- Qty=300 Req#186116 PO#568441 Elma (Sole Source)
- Expected Delivery: 14-Apr-06 (from PO)
- Unit price: $17.16 * 300 = $5,148 (+shipping?)

- Stefano gave an update on the Transition Board Control module. It can be found in beams-doc-1526. Work is on schedule, layout is started, first board will be ready April 24 according to the schedule.

- Timing board is ready. Working on some documentation and on the transition card (talks to Stefano's board).

3. Software status:
Front-end software
Online software

- Alarms are enabled on the teststand. Currently looking for various TCLK and other events.

- The software specification is almost complete. Dave and Alberto will read it by the end of the week. Final signatures next week if there are no issues/changes required.

4. Practice slides for All Experimenters Meeting - Rob K.

- Rob showed 14 slides (see beams-doc-2217) where he describes the MI BPM upgrade and the reasons for it, shows the hardware and software design, shows some early results from measurements at MI40, gives a timeline for completion, and summarizes. Many good suggestions were given to Rob and he will incorporate them. The biggest challenge will be to keep it under 10 minutes. It looks like a nice talk.

5. AOB